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## COMPARISONS OF MILITARY COMPENSATION

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Institute of Naval Studies

By: Sue Goetz Ross

December 1976

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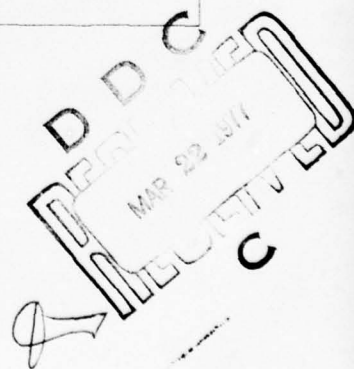
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of Military Compensation

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## INTRODUCTION

The structure of the military compensation system has an important effect on the quality and quantity of manpower resources that the military will be able to attract and retain as well as on their distribution among the different Services. The four Services are competing for manpower not only with the civilian sector,<sup>1</sup> but also, perhaps more directly, with each other. Moreover, each Service must be concerned about not only whether it is able to attract and retain sufficient numbers of personnel in total but also whether it can achieve the desired mix of personnel to fill the different kinds of jobs it must man. Until this study was undertaken, there was no data file detailed and refined enough to answer questions about relative pay among the Services for various sub-groups of men or about the relative pay of different groups of men within any one Service.

For this study, a longitudinal data file of earnings of enlisted men was created which contained information about all men on active duty as of 31 December 1974 who entered military service (had Basic Active Service Dates) in CY 1963 through 1967. It was created by merging information from enlisted master files for four points in time (see appendix B). From this, each enlisted man's Regular Military Compensation (RMC) for each year from 1969 through 1974 was estimated.

The use of RMC, in lieu of total pay, as a measure of military earnings was dictated by shortcomings in the data available to us. However, even if total pay figures could be reconstructed, they might not be as appropriate for some comparisons as the RMC amounts. Total military pay includes payments received for disamenities associated with certain military occupations (sometimes referred to as the "X" Factor). Thus, although RMC does not include special and incentive payments such as sea duty pay, hostile fire pay, or pay for high risk occupations such as diving, this omission actually makes RMC a preferable measure for pay comparisons. The omission of Proficiency Pay (Pro Pay) and Variable Re-enlistment Bonuses (VRB) cannot be justified on these grounds, but as the Pro Pay program is being phased out, RMC may more closely approximate full military income in the future.<sup>2</sup>

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<sup>1</sup> For a comparison of civilian and military earnings, see Sue Ross and John Warner, "Comparisons of Military and Veteran Compensation," Research Contribution 306, Center for Naval Analyses, December 1976.

<sup>2</sup> A Selective Re-enlistment Bonus (SRB) program has replaced VRBs. Since 1974 fewer men have been eligible for these bonuses, but the size of the average bonus has increased. Predictions of future trends in SRB are difficult without projections of civilian economic conditions, for SRBs are given more generously when unemployment falls and less generously when unemployment rises.

Omission of certain other components of total military pay from Regular Military Compensation results in an understatement of compensation but does not affect comparisons of pay within the military. For example, RMC excludes the value of purchase discounts and of the greater chance to avoid paying state and local taxes. RMC probably undervalues quarters provided to enlisted men; for it uses the cash Basic Allowance for Quarters (BAQ) that is paid if quarters are not provided. While the BAQ exceeds the value of quarters provided to single men, it is less than the value of housing provided to men with dependents; and most of these men were married. The calculated tax advantage included in RMC is understated in multiple-job military families. RMC also excludes the generous military medical, retirement, and similar fringe benefits.

Earlier studies of civilian earnings functions have already determined which personal characteristics have a great effect on the level of individuals' earnings. The most important characteristics are (1) education, (2) mental ability, (3) race, (4) experience or seniority, and (5) occupation. These five variables<sup>1</sup> were used to examine differences in compensation between and within the Services. We measured the differences in level and dispersion of compensation both at a specific point in time, 1974, and over time, from 1970 to 1974.

An important finding from the inter-Service comparisons is the consistently lower pay (and paygrade) of men in the Air Force and higher pay (and paygrade) of Marines, across all military occupations. Although there is a positive correlation between the RMC and the education and AFQT score of men in the various military occupations in every Service, in the Air Force there is much less difference between the pay, as measured by RMC, of high and low skill occupations than in the other Services.

A second interesting finding is that there are no significant differences between black and non-black earnings except in the Navy, where blacks earn more than non-blacks, especially in the lower mental categories. In general, the positive effects of higher education attainment, ability, seniority, or skill level of occupation are weak, resulting in little dispersion in military incomes. The one possible exception to this observation is that in the Navy the positive correlation between AFQT score and RMC is noticeable.

These and subsidiary findings and qualifications are discussed in more detail in the rest of this report. The evidence supporting the conclusions is presented in tables accompanying the text; many of the text tables are complemented by more detailed tables in appendix A. The data in these appendix tables provide additional evidence of the patterns noted in the report. They are included also so that the reader may make comparisons and examine relationships which may not be described in this report.

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<sup>1</sup> AFQT scores and mental category were used as measures of ability.

## DIFFERENCES BETWEEN THE SERVICES

### RACE, EDUCATION, MENTAL ABILITY, SENIORITY AND INFLATION

Before examining detailed, multi-dimensional cross-classifications of military personnel by Service, it is instructive to see the effects of just a few variables on RMC for all enlisted men. Since race, education, and ability generally are found to explain much of the variation in civilian incomes, the enlisted men were cross-classified by race, education level, and AFQT score in order to determine the effects of these variables on Regular Military Compensation. Table 1 contains estimates of average 1974 RMC for all enlisted men in the Army, Navy, and Air Force. AFQT scores were not available for members of the Marine Corps. (For RMC in earlier years, see appendix table A-1.) The AFQT categories -- low, < 31st percentile; med., 31st through 46th percentile; high > 46th percentile -- were chosen to facilitate comparisons with results from a study of veterans which used those categories. Low AFQT corresponds to mental category IV (and V); med., roughly to "lower III"; and high, roughly to "upper III" and categories II and I.

For non-blacks, AFQT appears to have a positive, but weak, relation to RMC; for blacks the relationship is virtually non-existent. For both non-blacks and blacks, education seems to have little effect on RMC. Differences in RMC by race are very small, within education and AFQT categories. Within education categories, blacks in the two lower AFQT groups earn more than comparable non-blacks, but the situation is reversed in the high AFQT group; all differences, however, are small. The effects of these three variables seem to be very small, if not non-existent, in the military; but the Services had yet not been studied separately. Therefore, a more detailed breakdown of the information in table 1 was prepared to show differences in RMC by Service. Finally, year of entry to active duty, or Basic Active Service Date (BASD), was added as a categorizing variable, to measure seniority. (Also, there was concern that differences in reporting rates for AFQT across years may have distorted the mix of BASDs in each Service.) Table A-3 reports the earnings profiles for high school graduates in the Army, the Navy, and the Air Force.<sup>1</sup> The 1974 figures are presented in table 2 for two BASD cohorts.

For each BASD cohort in the Army and in the Air Force, again there is no significant difference in RMC by race or by ability, as measured by AFQT score. In the Navy, however, there is a positive correlation between AFQT score and RMC across all cohorts. The correlation is much stronger for non-blacks than it is for blacks and

---

<sup>1</sup> The other two education categories (< 12 and > 12) are excluded because of small sample sizes.

TABLE 1

1974 REGULAR MILITARY COMPENSATION  
BY RACE, EDUCATION, AND AFQT SCORE

<u>Educ.</u>	<u>AFQT<sup>a</sup></u>	<u>Non-blacks</u>	<u>Blacks</u>
<12	Low	\$9639	\$9739
	Med.	9828	9909
	High	9921	9892
	All	9824	9814
12	Low	9417	9736
	Med.	9688	9810
	High	9894	9828
	All	9806	9784
>12	Low	9755	9970
	Med.	9829	10008
	High	10036	9996
	All	10014	9991

<sup>a</sup>Low, <31; med., 31-46; high, >46.

TABLE 2

1974 RMC OF HIGH SCHOOL GRADUATES WITH 1963 AND  
1967 BASD, BY RACE, AFQT SCORE, AND SERVICE

<u>AFQT<sup>a</sup></u>		<u>Army</u>	<u>Navy</u>	<u>Air Force</u>
1963 cohort				
Non-black				
	Low	\$10,630	\$ 9,842	\$ 9,977
	Med.	10,709	10,292	9,973
	High	10,765	10,680	10,121
	All	10,735	10,547	10,092
Black				
	Low	10,683	10,376	9,838
	Med.	10,663	10,385	9,903
	High	10,733	10,529	9,973
	All	10,687	10,447	9,911
1967 cohort				
Non-black				
	Low	9,400	8,657	9,126
	Med.	9,498	8,831	9,230
	High	9,631	9,586	9,277
	All	9,564	9,360	9,252
Black				
	Low	9,422	9,331	9,054
	Med.	9,537	9,393	9,155
	High	9,574	9,661	9,172
	All	9,479	9,508	9,105

<sup>a</sup>Low, <31; med., 31-46; high, >46.

is strongest, among non-blacks, for men with the fewest years in the military.<sup>1</sup> While high ability blacks in the Navy earn the same as comparable non-blacks, low ability blacks earn more than non-blacks of the same cohort.

The effect of seniority on RMC varies somewhat across the three Services (table 3). In the Air Force the oldest cohort (BASD 1963) earned 8 or 9 percent more than the youngest (BASD 1967); in the Army the differences were 12 or 13 percent; in the Navy the oldest non-blacks received 11 to 17 percent more than the youngest, but the seniority differentials for blacks were lower (9 to 11 percent).

TABLE 3  
PERCENTAGE DIFFERENCE IN 1974 RMC BETWEEN HIGH SCHOOL GRADUATES WITH 7 AND 11 YEARS IN SERVICE,<sup>a</sup> BY RACE, AFQT SCORE, AND SERVICE

AFQT <sup>b</sup>	Army		Navy		Air Force	
	Non-black	Black	Non-black	Black	Non-black	Black
Low	13	13	14	11	9	9
Med.	13	12	17	11	8	8
High	12	12	11	9	9	9
All	12	13	13	10	9	9

<sup>a</sup>1967 and 1963 BASD years, respectively.

<sup>b</sup>Low, < 31; med., 31-46; high, > 46.

The differences in RMC by length of service described in the preceding paragraph are cross-sectional and do not, of course, represent the increases in RMC over time. The percentage increases in RMC between 1970 and 1974 for all cohorts are presented in table 4. As expected, the increases are greatest for the most recently enlisted cohort. The rate of increase has been lowest for men in the Army. Rates of increase have been strikingly large for non-blacks in the Navy whose AFQT scores are below the 47th percentile; this reflects the position of these men in 1970, when their RMCs were

<sup>1</sup> Apparently the Navy relies more heavily on qualifying test scores in determining which men will attend training leading to occupational specialties. Men in these training schools achieve ratings and the attendant promotion more rapidly.

TABLE 4

PERCENTAGE INCREASE FROM 1970 TO 1974 IN THE RMC OF  
HIGH SCHOOL GRADUATES, BY RACE, AFQT SCORE, SERVICE, AND BASD

BASD	AFQT <sup>a</sup>	Army		Navy		Air Force	
		Non-black	Black	Non-black	Black	Non-black	Black
1963	Low	48	48	57	52	51	51
	Med.	49	48	53	52	51	52
	High	50	50	51	51	52	51
1964	Low	49	49	64	54	53	55
	Med.	49	49	58	55	52	54
	High	50	50	53	52	53	53
1965	Low	50	50	70	56	54	55
	Med.	50	50	63	54	55	56
	High	52	52	56	55	55	56
1966	Low	54	52	76	60	62	62
	Med.	54	53	73	66 <sup>b</sup>	61	61
	High	55	55	60	58 <sup>b</sup>	59	60
1967	Low	61	60	83	73	73	73
	Med.	61	61	85	74	74	75
	High	62	63	69	68	73	75

<sup>a</sup>Low, <31; med., 31-46; high, >46.

<sup>b</sup><sub>n</sub> < 30.

13 percent lower than those of men with AFQTs above the 46th percentile. Although the differences in RMCs by AFQT score and length of service were still larger in 1974 in the Navy than in the other services, they were not as great as they were 4 years earlier.

The large percentage increases in Air Force RMC for the 1967 and, to a lesser degree, the 1966 BASD cohorts may appear paradoxical, especially in light of the relatively low 1974 RMC figures for the Air Force (table 2) and the small seniority differential in the Air Force (table 3). The increases were large in percentage terms primarily because the youngest Air Force men had the lowest bases (1970 RMC) and also because, as is the case for the younger men, some of them were still E3s and E4s in 1974, paygrades which were affected by the 1971 All Volunteer Forces pay increase.

The differences in 1974 RMC between the Army and the Navy (see table A-3) range from approximately nothing, for Navy men with high AFQT scores, to 8 percent less for non-black Navy men with low AFQTs. In all cohorts and ability categories, both blacks and non-blacks in the Air Force received from 4 to 7 percent less 1974 RMC than those in the Army. Most of this variability is explained by differences in paygrade, resulting in part from differences in promotion rates among the Services. Table A-4 presents the percentage distribution of paygrades of all men in each BASD cohort and each Service. (Figures for the Marine Corps are included in table A-4 because AFQT score, which is missing for Marines, was not used as a classificatory variable.) This information is summarized in table 5.

Striking differences in the paygrade distributions across Services can be observed. For example, among men with 1963 BASDs the percentage who had attained a paygrade of E7 or higher by 31 December 1974 ranged from 1.39 in the Air Force through 12.20 in the Navy, 19.45 in the Army, to 28.19 in the Marine Corps. Among those with 1967 BASDs, the percentage who had attained a rank of E6 or higher was 1.41 in the Air Force, 35.22 in the Army, 37.48 in the Navy, and 68.98 in the Marine Corps. These differences could result from different ability and education distributions among the four Services as a result of, for example, policy on who may re-enlist. However, the education and mental category distribution for each Service (table 6) does not support this hypothesis. Moreover the data in table A-5, which contains paygrade distributions for two of the most common education and ability categories, show the same patterns of lower paygrade in the Air Force and higher paygrade in the Marine Corps compared with the Army and Navy. Among other possible causes of these differences are more generous promotion policies in some Services or differences in the patterns of force build-ups during the Vietnam War.

TABLE 5  
PERCENTAGE DISTRIBUTION OF PAY GRADE IN 1963  
AND 1967 COHORTS AS OF 31 DECEMBER 1974, BY SERVICE

<u>Service</u>	<u>E3,4</u>	<u>E5</u>	<u>E6</u>	<u>E7,8</u>
1963 cohort				
Army	1.16	17.02	62.36	19.45
Navy	3.68	22.80	61.32	12.20
Marine Corps	.37	4.84	66.60	28.19
Air Force	.76	67.34	30.52	1.39
1967 cohort				
Army	7.82	56.96	34.59	.63
Navy	11.85	50.66	37.04	.44
Marine Corps	1.83	29.18	66.36	2.62
Air Force	11.70	86.89	1.36	.05

TABLE 6  
PERCENTAGE DISTRIBUTION OF MENTAL CATEGORY AS OF  
31 DECEMBER 1974, BY EDUCATION AND SERVICE

<u>Educ.</u>	<u>Mental category</u>				<u>All</u>
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV, V</u>	
Army					
<12	.24	2.48	9.59	7.33	19.64
12	2.40	17.06	33.38	16.81	69.65
>12	<u>1.40</u>	<u>4.17</u>	<u>3.76</u>	<u>1.38</u>	<u>10.71</u>
All	4.04	23.71	46.73	25.52	100.00
Navy					
<12	.08	1.58	1.70	3.21	6.57
12	5.59	36.71	16.03	20.82	79.15
>12	<u>4.02</u>	<u>8.23</u>	<u>1.20</u>	<u>.83</u>	<u>14.28</u>
All	9.69	46.52	18.93	24.86	100.00
Marine Corps					
<12	.18	1.96	4.30	2.08	8.52
12	8.00	39.01	28.97	5.58	81.56
>12	<u>2.56</u>	<u>5.05</u>	<u>1.93</u>	<u>.40</u>	<u>9.94</u>
All	10.74	46.02	35.20	8.06	100.00
Air Force					
<12	.22	1.71	2.86	.27	5.06
12	7.12	34.91	37.06	6.80	85.89
>12	<u>1.86</u>	<u>4.46</u>	<u>2.45</u>	<u>.30</u>	<u>9.07</u>
All	9.20	41.08	42.37	7.37	100.00

## OCCUPATION

The data were also used to analyze differences in military earnings by occupation. Average Regular Military Compensation, 1969 through 1974, was calculated for each Service for each DoD two-digit occupation (table A-6). Classification at a more-detailed level would have produced more earnings profiles than could be reasonably assimilated and would have yielded profiles based on too few observations for statistical reliability.<sup>1</sup> However, for each Service and occupation sub-group, education and AFQT score frequency distributions were prepared and the percentages of men receiving Variable Re-enlistment Bonuses and Pro Pay were calculated, as were the mean values for other variables of interest. As is noted in appendix B, there are serious problems in assigning dollar values based on the Pro Pay and VRB codes in the data provided by the Manpower Resources Data Analysis Center (MARDAC), but their presence or absence may indicate whether or not some amount of special pay was received.

The risks involved in relying on the MARDAC data on Pro Pay and VRB are reflected by the data in table A-7. The data in the first two columns relate to men with 7 to 11 years of active duty, while the other data refer to all men in the Service. Therefore, the percentages receiving a payment are not expected to be equal. However, the relationships observed in table A-7 are not consistent. For example, the MARDAC Pro Pay percentage for the Air Force presumably ought to exceed the Service-wide percentage, not fall below it; and the Marine Corps Pro Pay and the Navy VRB percentages appear high relative to the other Services, although they are not obviously and definitely wrong.

To facilitate the comparison of RMC by occupation across Services, each of the other Services was compared with the Army (table A-8). Each row of table A-8 represents a two-digit occupational specialty. The first three columns contain the ratios of RMC of men in the Navy, Marine Corps, and Air Force to RMC of Army men in that occupation. (The inter-service RMC ratios are summarized in table 7.) The next four columns give the percentage of men receiving Pro Pay in 1974. The final two columns give the percentage of Army and Navy men receiving Variable (Selective) Re-enlistment Bonuses in 1974. The Marine Corps and the Air Force reported no VRBs in these data. (As noted above, the reported percentages may not be reliable.)

Different occupations are lower paid (or better paid) in each Service. In about half of the specialties, Army RMC exceeded Navy RMC; in about half, Navy RMC was

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<sup>1</sup> Even at this level of detail small sample sizes occur. In the discussion which follows, categories with small sample sizes generally are ignored.

higher. Relatively low paying specialties in the Navy were Administrative Specialists and Clerks, especially (54) Accounting, Finance, and Disbursing and (55) Supply and Logistics, and Services and Supply Handlers, especially (80) Food Handlers.<sup>1</sup> Relatively high paying Navy occupational groups were Craftsmen and, to a lesser extent, Electrical and Mechanical Equipment Repairmen. (11) Fire Control and (78) Firefighting and Damage Control were well-paid sub-specialties, as were (70) Metal Working and (73) Construction Equipment Operators.

TABLE 7  
NUMBER OF OCCUPATIONS IN THE OTHER SERVICES,  
PAYING MORE OR LESS THAN OR  
THE SAME AS IN THE ARMY

<u>Service</u>	<u>&lt; Army</u>	<u>= Army</u>	<u>&gt; Army</u>
Navy	22	6	23
Marine Corps	3	5	37
Air Force	50	2	0

RMC of Marines in 1974 was less than that of Army personnel in only three occupations: (1) Infantry, (24) Military Intelligence, and (49) Technical Specialists not elsewhere classified. Marine RMC exceeds that of the Army by 5 percent or more in (32) Related Medical Services, (70) Metal Working, (78) Firefighting and Damage Control, and (81) Motor Transport.

Air Force pay was lower than Army and Marine Corps pay in every two-digit occupational specialty and lower than Navy pay in all but two occupations. For men who leave the Air Force after one enlistment, this lower pay is offset by the fact that Air Force personnel receive training in Service which is more valuable in civilian life: a greater proportion of Air Force than Navy or Army veterans work in occupations related to their military occupations, and they earn more than veterans from other Services.<sup>2</sup> However, the lower RMC and high paying civilian alternatives make it difficult to explain in purely monetary terms how the Air Force manages to retain adequate numbers of qualified personnel and suggest that better living or working conditions, other amenities, or different Service policies on re-enlistments are important.

<sup>1</sup> Occupation 80 includes a large number of Filipino stewards; it is also the occupation with the lowest average AFQT score, 31.8.

<sup>2</sup> See CRC 306.

RMC of Air Force men generally is 94 to 99 percent that of Army men in the same occupation. It falls below this range in four specialties: (14) Nuclear Weapons Equipment, (24) Military Intelligence, (42) Weather, and (50) Personnel. It equals Army RMC only in one occupation, (66) Shipboard Propulsion, which represents only six men. The RMCs are approximately equal in (70) Metal Working.

Some occupations are among the best paid in one Service and the lowest paid in another. To check whether this might be related to different skill requirements for an occupation across Services, distributions of average AFQT scores and education were calculated. Table 8 contains average AFQT by Service and occupation and the percentage of men in each Service and occupation who had completed one or more years of college or who had not completed high school.

Returning to the Army-Navy comparisons, we see that the educational differences are not too informative: for the four occupations in which a larger percentage of Navy than of Army men are high school drop-outs, the number of observations for either Service was rather small (32 or fewer) for statistical reliability.<sup>1</sup> The average AFQT scores provide more interesting results. There are three occupations with lower Navy scores -- (54) Accounting, (80) Food Service, and (82) Material Receipt -- and they constitute two of the three relatively lowest paying.

In comparing the Army and Marine Corps percentages of high school drop-outs in table 8, two occupations were identified as having more drop-outs among Marines. The sample size for (42) Weather was marginally adequate; this was a high paying specialty for Marines relative to the Army, in spite of the higher drop-out percentage. The other specialty, (49) Technical Specialists -- NEC, had an adequate sample size and was the lowest paid occupation for Marines relative to Army men, as would be expected. The evidence that ability or skill explains Army-Marine Corps RMC differences by occupation is inconclusive.

In contrast, the occupations which are lower paid in the Air Force relative to the Army are associated with relatively lower AFQT scores of Air Force men. In only three occupations -- (23) Signal Intelligence Electronics Warfare, (51) Administration, and (83) Military Police -- are Air Force AFQTs lower than Army AFQTs. (The differences are small.) Those three occupations are in the lower half of all occupations in terms of relative RMC. The percentage of high school drop-outs in an occupation is greater for the Air Force than the Army in only one specialty, (42) Weather; the Air Force RMC is 93 percent of that of the Army, placing it in the lowest decile in terms of relative Air Force-Army compensation. Thus there is some evidence that differences between the Services in relative compensation for an occupation are at least in part related to differences in the qualifications of men in those occupations.

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<sup>1</sup> In the rest of this section, occupations with small sample sizes generally are ignored.

TABLE 8

EDUCATION AND AFQT SCORE  
BY SERVICE AND OCCUPATION

Occup.	Average AFQT			Percentage with some college				Percentage high school drop-outs			
	A	N	AF	A	N	MC	AF	A	N	MC	AF
01	44	56	70	9	4	5	17	21	19	16	6
02	47			5		2		31		20	
03	43			5		3		35		15	
04	41	52		5	3	2		25	25	13	
05			68			26	7			0	10
06	40	52	45	2	5		0	24	21		0
10	58	83	80	15	30	20	12	14	3	1	3
11	66	82	83	20	31		16	13	2		2
12	63	75	82	18	19	23	21	8	6	3	1
13		77			20				6		
14	80		86	36			26	5			0
15	67	82	80	19	28	22	12	13	4	1	3
16	63	72	77	12	11	0	15	16	7	0	2
19	60	83	78	19	31	24	16	11	4	0	3
20	50	68	68	9	10	7	12	20	8	14	6
21		79			27				5		
22	59	72	66	14	14	14	9	16	7	4	3
23	77	79	76	37	23	28	16	3	3	0	0
24	69	75	78	35	27	15	23	5	2	4	1
25	50		63	11		15	8	22		9	4
30	54	70	65	15	18		10	15	5		4
31	64	70	68	28	22		23	5	4		3
32	60	76	66	25	22	0	16	7	6	0	4
33	52	66	65	16	18		12	16	5		3
40	54	69	71	8	17	13	14	11	5	7	3
41	58	59	74	9	20	12	23	18	2	0	2
42	67	73	78	31	20	12	24	0	3	3	3
43	67		77	22		3	10	10		0	0
44	84			100					0		
45	64	71		52	40	39		5	4	4	
49	50	65	67	18	0	4	12	10	25	9	5
50	58	60	62	18	18		19	12	7		2
51	53	61	51	17	15	11	9	12	7	8	4
52			65			16	25			3	25
53	58	71	74	20	20	23	21	11	5	1	3
54	60	45	69	16	14	15	23	7	3	6	4
55	43	47	56	7	8	6	10	21	7	7	4
56	46	50	52	20	0	0	10	14	25	38	3
57	64	72	64	38	33	22	17	12	2	7	4

TABLE 8 (Continued)

Occup.	Average AFQT			Percentage with some college				Percentage high school drop-outs			
	A	N	AF	A	N	MC	AF	A	N	MC	AF
58	53	77	57	12	20	4	7	12	2	3	4
60	54	64	59	9	9	6	4	17	10	5	7
61	47	56	51	3	6	4	3	28	18	15	9
62	42	70	59	4	10	7	5	26	4	16	8
63	52	73	68	17	10		6	22	5		1
64	44	72	69	8	13	9	5	25	6	8	2
65	47	56	62	2	4		0	22	17		33
66	49	73	65	8	22		7	23	2		7
67	44	72	62	3	14	6	0	28	3	6	0
68		52			4	4			21	5	
69	36	63		7	4			26	4		
70	46	54	54	4	4	6	4	25	13	13	11
71	45	57	46	4	9		3	21	18		9
72	44	61	55	2	7	10	6	25	12	13	7
73	44	54	50	2	4	0	1	32	22	26	12
74	48	60	56	3	16	23	4	23	10	8	6
75		59	67		6	0	4		10	7	0
76	18	42	39	0	0	0	0	21	0	20	15
78	40	56	49	5	3	2	4	21	11	14	11
79	50	47	56	0	2		4	50	14		8
80	37	32	44	4	3	3	3	32	9	22	10
81	41		44	2		5	2	33		13	12
82	39	37	44	3	2	3	3	21	18	16	7
83	53	41	48	12	0	11	5	17	0	6	5
84	32	35		3	3	0		26	32	14	
85	35			3				29			
86	50		59	6		10	7	12		3	6
A11	49	62	62	11	13	10	9	20	9	8	5

## DIFFERENCES, BY OCCUPATION, WITHIN THE SERVICES

### EXTENT OF VARIATION

Turning now from differences between the four Services to variations in RMC within each Service, one may examine the "1974" column of table A-6. One striking observation about the variation in RMC by occupation stands out: there is much less variation in RMC between occupations in the Air Force than in the other three Services. (See table 9.) Army occupations have RMCs ranging from \$9,627 to \$10,480, a range of \$853 or 8.5 percent. In the Navy, excluding occupations with 12 or fewer observations and excluding (80) Food Handlers, many of whom are Filipino stewards, the range is \$798 (\$9,660 to \$10,458) or 7.9 percent. Excluding the highest paid Marine Corps occupation, which has only five observations, the range is \$814 (\$9,888 to \$10,702) or 7.9 percent. Excluding the highest paid Air Force occupation and its eight observations, the RMC averages range from \$9,484 to \$9,756 (\$272 or 5.9 percent); however, 52 of these 54 occupations have RMCs between \$9,484 and \$9,756, for a range of \$272 or only 2.8 percent. The variation (range) in RMC of men in the Air Force is about one-third that in the other Services. This is probably due to the Air Force's policy of allocating promotions proportionately across all occupational specialties.

TABLE 9

### RANGE OF 1974 RMC ACROSS OCCUPATIONS, BY SERVICE<sup>a</sup>

<u>Service</u>	<u>Lowest RMC</u>	<u>Highest RMC</u>	<u>Range</u>	<u>%</u>
Army	\$9627	\$10480	\$853	8.5
Navy	9660	10458	798	7.9
Marine Corps	9888	10702	814	7.9
Air Force <sup>b</sup>	9484	9756	272	2.8

<sup>a</sup> Occupations with 12 or fewer observations were omitted.

<sup>b</sup> Excluding two occupations, one with unusually large length of service; inclusion results in a range of \$578.

## CORRELATION WITH EDUCATION, AFQT

Still another question for which these data provide evidence is whether, within each Service, there is a positive correlation between the skill requirements for an occupation and the average RMC in that occupation. In the absence of defined skill requirements for each occupation, the education and AFQT scores of men in each occupation were used as proxies for the level of skill needed for performance. Table 10 lists the highest and lowest paid occupations within each Service and the average education and AFQT score of men in those occupations.

The evidence suggests that, in each Service, the differences in compensation by occupation may reflect differences in the training and ability of the men performing the duties of those occupations. In all Services most of the men in highest paid occupations have above average education and AFQT, while men in the lowest paid occupations usually have below average education and AFQT. The occupations which are exceptions to the strong correlations between RMC and education and AFQT in each Service are often the ones which are among the highest paid in one Service and lowest paid in another. Thus, although a strong general pattern of correlation has been identified, an explanation for inter-Service differences in RMC rankings has not been provided.

Among all 60 Army occupations, 8 of the 10 highest paying occupations have education levels above the median and 7 of 10 have AFQT scores above the median. Moreover, all of the 7 highest paid occupations have education above the median and 6 have AFQTs above the median (not shown). In fact, the education levels of these 7 specialties are among the top 16 values for average education by occupation. At the other end of the scale, for the Army, all of the 10 lowest paid occupations have education and AFQT scores below the median except one occupation (44) with only four observations. The average BASD for those four men is 66.50 (1 July 1966), which apparently more than offsets the facts that these men all have at least some college (two graduated) and are in mental categories I and II.

The relationship between RMC and education or AFQT score among Navy occupations was also examined. Only 9 of the 13 highest paid occupations have education and AFQTs above the medians, but one of the exceptions has a small sample size. If only the 7 occupations with RMC exceeding \$10,300 are considered (not shown), only four have education and AFQT exceeding that of the median occupation. Of the 8 lowest paid Navy occupations, 7 have lower than average education, and all have low AFQT scores. If the lowest 13 occupations are examined (not shown), there are 4 with high education and 3 with high AFQT. The correlations do exist for Navy occupations, but they may be somewhat weaker than for the other services.<sup>1</sup>

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<sup>1</sup> The Navy has, however, made greater use of Variable/Selective Re-enlistment Bonuses than the Army to retain men with scarce skills.

TABLE 10  
AVERAGE EDUCATION AND AFQT SCORE IN HIGHEST AND  
LOWEST PAID OCCUPATIONS IN EACH SERVICE

<u>Occ.</u>	<u>Educ.</u>	<u>AFQT</u>	<u>Occ.</u>	<u>Educ.</u>	<u>AFQT</u>
	<u>Army</u>			<u>Navy</u>	
Highest paid (RMC > \$10,250)			Highest paid (RMC > \$10,250)		
01	11.71	44	11	12.31	82
12	12.16	63	13	12.18	77
14	12.59	80	15	12.37	83
15	12.03	67	21	12.29	79
24	12.55	69	23	12.31	79
25	11.70	50	24	12.36	75
42	12.48	67	32	12.19	76
45	13.13	64	49 <sup>a</sup>	11.17	65
49	12.13	50	58	12.32	77
50	12.09	58	67	12.11	72
			71	11.74	57
			75	11.82	59
			78	11.66	56
Lowest paid (RMC < \$9,800)			Lowest paid (RMC < \$9,800)		
44 <sup>a</sup>	15.25	84	01	11.62	57
62	11.47	42	54	12.23	45
65	11.57	47	55	11.99	47
70	11.44	46	76 <sup>a</sup>	12.00	42
73	11.29	44	80	11.85	32
74	11.49	48	82	11.62	37
76	11.57	18	83 <sup>a</sup>	12.00	41
78	11.71	40	84	11.32	35
81	11.31	41			
85	11.38	35			
Median occup.	11.78	50.44	Median occup.	12.07	65.00

TABLE 10 (Continued)

<u>Occ.</u>	<u>Educ.</u>	<u>Occ.</u>	<u>Educ.</u>	<u>AFQT</u>
<u>Marine Corps</u>		<u>Air Force</u>		
Highest paid (RMC > \$10,400)		Highest paid (RMC > \$9,700)		
05	12.35	05	12.02	68
10	12.29	12	12.35	62
15	12.40	23	12.34	76
16	12.00	24	12.43	78
22	12.11	41	12.45	74
32 <sup>a</sup>	12.00	49	12.12	67
42	12.12	52 <sup>a</sup>	12.00	65
45	12.89	54	12.41	69
53	12.43	57	12.29	64
54	12.11	65 <sup>a</sup>	11.67	62
55	11.99			
57	12.28			
Lowest paid (RMC < \$10,150)		Lowest paid (RMC < \$9,550)		
01	11.74	51	12.11	51
03	11.75	58	12.07	57
49	11.79	61	11.96	51
51	12.01	71	11.96	46
61	11.73	72	12.03	55
62	11.70	75	12.04	67
72	11.88	76	11.85	39
73	11.40	78	11.96	49
75	11.93	79	12.01	56
76	11.47	80	11.93	44
78	11.79	81	11.91	44
83	12.07	82	11.98	44
		83	12.02	48
Median occup.	11.99	Median occup.	12.11	65.00

<sup>a</sup>Averages for these occupations are based on 12 or fewer observations.

All 12 Marine Corps top paying occupations are at or above the median for education; 10 of the 12 lowest paying specialties have education levels below the median.

Although 3 of the 10 highest paid occupations in the Air Force had education levels below the median, 2 of these were occupations with fewer than 10 observations. The 2 top occupations had unusually senior men in them: the 8 men in occupation 52 had an average BASD of 1963.5; in occupation 05, the average was 1964.5. The results are more definitive for low paying occupations in the Air Force. All had average education levels at or below the median; all but one had AFQT scores below the median.

#### RATES OF INCREASE

The percentages in tables 11 and A-9 are the increases in RMC between 1970 and 1974 for the 1963-67 BASD cohort of men. The rates of increase were most uniform across occupations in the Army. Excluding the highest and lowest rates, both of which are associated with sample sizes of less than 15, the percentage increases all lie between 51 and 57, with three-fourths lying between 52 and 54 percent. The Army increases were not only most uniform but also lowest, with a median and mode of 53 percent.

The greatest rates of increases are in the Marine Corps, where the median percentage change was 61.5 and two-thirds of the occupations experienced increases of between 58 and 63 percent. There was also a greater range of increases in the Marine Corps than in the other Services, varying from 54 to 77 percent. However, when extreme values representing 15 or fewer observations are excluded, the range is from 56 to 69 percent -- still greater than among Army occupations, but similar to the Air Force and less than the variability among Navy occupations.

The average increase in RMC by occupation was only slightly smaller in the Navy and the Air Force than in the Marines. The median percentage increase was 59 in the Air Force, with more than three-fourths of the increases being between 58 and 61 percent. The median in the Navy is 58.9 percent; the mode, 57 percent.

The variability in increases among Air Force occupations, exclusive of one extreme value with only eight observations, is similar to that of the Marines, and more than that of Army occupations but less than that for the Navy. The range is from 52 to 65 percent. The increases in RMC in Navy occupations are quite dispersed, from a low of 53 to a high of 74. Moreover, there is no strong central tendency. Two-thirds of the increases lie between 57 and 63 percent; three-fourths lie between 55 and 63 percent, as compared with the more compact distributions in the other three Services. As is noted in the discussion of table 4, differences in RMC by AFQT and length of service, of Navy men, were declining in the period from 1970 to 1974, although the differences still were greater than in the other Services.

TABLE 11

FREQUENCY DISTRIBUTION OF OCCUPATIONS BY PERCENTAGE INCREASE  
 IN RMC FROM 1970 TO 1974 AND SERVICE  
 (Excluding cells with 15 or few observations)

<u>Percent increase</u>	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
51	4			
52	9	2		1
53	25			1
54	11	3		
55		3		1
56	3	3	1	3
57	1	9		3
58		7	4	10
59		5	6	12
60		4	6	11
61		1	5	9
62		6	5	1
63		6	7	1
64			1	
65		4	5	1
66			3	
67			1	
68		1	1	
69			1	
72				
74		1		

## SUMMARY

RMC differences by education are almost non-existent, and differences in RMC by race and by AFQT score are observed only in the Navy. Blacks in the Navy are paid more than non-blacks of the same education and AFQT categories. For both blacks and non-blacks in the Navy, there is a positive correlation between RMC and AFQT score, and the effect of AFQT is stronger among the non-blacks. However, these variations were smaller in 1974 than in 1970. This reduction in the variation of Navy RMC between 1970 and 1974 resulted largely from the great variation in the rates of increase in RMC among Navy occupations. By contrast, there was virtually no difference in the rate of growth of RMC among Army occupations. Across all Services, increases in RMC by occupation from 1970 to 1974 averaged around 55 or 60 percent. Considering all occupations together, between 1970 and 1974, RMC increased by about 50 percent for men who entered the military in 1963 and by from 60 to 80 percent for 1967 entrants. The increases were greatest for non-black, low and medium AFQT, Navy men, again contributing to the convergence in RMC over time.

In the most recently enlisted cohorts, Navy and Air Force enlisted men, being in the lower ranks in 1970, experienced larger growth rates in RMC than Army men.

The increases in RMC attributable to seniority were as low as 2 percent per year in the Air Force.<sup>1</sup> Although annual shifts in the pay scale can offset this monetary disincentive to remaining in the military, such small differences in pay between a man and someone 2 or 3 years his junior could cause discontent.

Despite the fairly high education and AFQT levels of Air Force enlisted men, they have the lowest paygrade distribution and the lowest pay in each military occupation. On the other hand, men who leave the Air Force have been seen to gain the most from their in-service training. The Air Force also has the smallest variation in RMC across different occupations of all the Services; apparently, in the Air Force, promotions are awarded proportionally across specialties regardless of the skill level involved.

Paygrade distributions were higher in the Army and the Navy than in the Air Force, but the highest paygrades were achieved by Marine enlisted men. The pattern of higher pay for Marines held up when comparisons were made across two-digit military occupations.

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<sup>1</sup>The return to seniority in the civilian sector has been estimated at 5.5 percent; see CRC 306.

Although the same occupational specialties are not necessarily the highest (or lowest) paid in every Service, within each Service there are positive correlations between the average RMC and the education and AFQT scores of men in that specialty. However, the more demanding and technical military occupations pay only a little more than less skilled occupations. RMC does not include special and incentive pays, but it does not appear that their inclusion would greatly increase the dispersion in pay. Therefore the Services face a potential problem of attracting and retaining adequate numbers of men qualified and willing to perform in those occupations. This problem would be exacerbated by the phasing out of special pays.

APPENDIX A

TABLE A-1

RMC, 1969-74, BY RACE, EDUCATION, AND AFQT SCORE

Educ.	AFQT <sup>a</sup>	Non-blacks					1974	Ratio <sup>b</sup>	n
		1969	1970	1971	1972	1973			
<12	Low	5052	6148	7029	7977	8731	9639	.97	2283
	Med.	5354	6374	7217	8175	8926	9828	.99	2281
	High	5330	6376	7254	8220	8988	9921	1.00	4279
12	Low	4713	5749	6619	7724	8504	9417	.95	8527
	Med.	5015	6057	6920	7972	8760	9688	.98	11067
	High	5203	6260	7158	8162	8949	9894	1.00	52857
13-15	Low	5065	6096	6970	7996	8824	9755	.99	352
	Med.	5114	6159	7055	8080	8882	9824	.99	603
	High	5285	6362	7278	8280	9069	10038	1.02	9299
>15	Low	4808	5869	6838	8002	8783	9762	.99	17
	Med.	4988	6115	6994	8104	8877	9894	1.00	45
	High	5272	6357	7268	8272	9054	10010	1.01	427
		Blacks							
<12	Low	5219	6312	7170	8092	8842	9739	.98	996
	Med.	5472	6488	7319	8251	9005	9909	1.00	510
	High	5379	6385	7259	8198	8976	9892	1.00	325
12	Low	5132	6215	7058	8039	8810	9736	.98	5016
	Med.	5271	6291	7119	8115	8882	9810	.99	3438
	High	5222	6261	7130	8118	8896	9828	.99	3374
13-15	Low	5420	6464	7314	8260	9026	9977	1.01	337
	Med.	5494	6515	7341	8286	9055	9999	1.01	279
	High	5398	6448	7319	8284	9034	10005	1.01	463
>15	Low	5162	6259	7132	8053	8857	9819	.99	14
	Med.	5642	6735	7597	8506	9239	10204	1.03	13
	High	5481	6415	7309	8249	9011	9801	.99	21

<sup>a</sup>Low, <31; med. 31-46; high, >46.<sup>b</sup>Ratio of 1974 RMC to that of non-blacks with Educ.=12 and AFQT=high.

TABLE A-2

1974 RMC BY RACE, EDUCATION,  
AFQT SCORE, AND SERVICE

<u>Educ.</u>	<u>AFQT<sup>a</sup></u>	<u>Non-blacks</u>	<u>Blacks</u>
<u>Army</u>			
<12	Low	9,614	9,752
	Med.	9,882	10,000
	High	9,935	9,992
	All	9,822	9,851
12	Low	9,859	10,002
	Med.	10,066	10,141
	High	10,129	10,080
	All	10,075	10,056
>12	Low	10,173	10,168
	Med.	10,160	10,288
	High	10,281	10,223
	All	10,225	10,219
<u>Navy</u>			
<12	Low	9,771	9,824
	Med.	9,908	9,975
	High	10,091	9,969
	All	9,965	9,898
12	Low	9,185	9,917
	Med.	9,551	10,051
	High	10,119	10,161
	All	9,910	10,062
>12	Low	9,323	9,769
	Med.	9,628	9,955
	High	10,179	10,375
	All	10,142	10,263
<u>Air Force</u>			
<12	Low	9,205	9,157
	Med.	9,396	9,482
	High	9,699	9,484
	All	9,587	9,420
12	Low	9,324	9,317
	Med.	9,500	9,498
	High	9,586	9,563
	All	9,554	9,453
>12	Low	9,465	9,412
	Med.	9,625	9,718
	High	9,646	9,634
	All	9,640	9,608

<sup>a</sup>Low, <31; med., 31-46; high, >46.

TABLE A-3

RMC, 1969-74, OF HIGH SCHOOL GRADUATES,  
BY RACE, AFQT SCORE, SERVICE, AND BASD  
(Sample size exceeds 100 unless otherwise indicated)

<u>AFQT<sup>a</sup></u>	<u>BASD</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>Ratio I<sup>b</sup></u>	<u>Ratio II<sup>c</sup></u>
ARMY									
Non-black									
Low	1963	6248	7165	7966	8886	9664	10630	.99	.99
	1964	6018	6987	7777	8706	9445	10380	.99	.99
	1965	5742	6706	7508	8444	9169	10084	.99	.99
	1966	5250	6330	7167	8094	8849	9748	.98	.98
	1967	4547	5830	6794	7709	8472	9400	.98	.98
Med.	1963	6277	7194	7989	8892	9696	10709	.99	.99
	1964	6008	6972	7779	8689	9441	10390	.99	.99
	1965	5763	6733	7575	8475	9204	10115	.99	.99
	1966	5309	6396	7232	8171	8935	9854	.99	.99
	1967	4583	5883	6851	7766	7540	9498	.99	.99
High	1963	6236	7175	8002	8931	9744	10765	base	base
	1964	6013	6990	7826	8748	9505	10512	base	base
	1965	5706	6706	7576	8493	9247	10183	base	base
	1966	5327	6426	7298	8237	9009	9948	base	base
	1967	4672	5946	6933	7862	8661	9631	base	base
Black									
Low	1963	6289	7200	7981	8888	9679	10683	.99	.99
	1964	6024	6978	7786	8697	9433	10424	.99	.99
	1965	5764	6729	7544	8463	9187	10106	.99	.99
	1966	5371	6448	7252	8160	8901	9796	.98	.98
	1967	4622	5897	6853	7743	8508	9422	.98	.98
Med.	1963	6289	7191	7968	8900	9652	10663	.99	.99
	1964	6092	7034	7830	8783	9493	10480	1.00	1.00
	1965	5726	6685	7511	8395	9148	10045	.99	.99
	1966	5360	6424	7262	8177	8922	9849	.99	.99
	1967	4699	5926	6906	7805	8138	9537	.99	.99
High	1963	6230	7173	8007	8929	9730	10733	1.00	1.00
	1964	5972	6937	7776	8674	9416	10429	.99	.99
	1965	5662	6665	7529	8463	9192	10101	.99	.99
	1966	5236	6327	7216	8135	8894	9834	.99	.99
	1967	4603	5860	6842	7790	8593	9574	.99	.99

TABLE A-3 (Continued)

<u>AFQT<sup>a</sup></u>	<u>BASD</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>Ratio I<sup>b</sup></u>	<u>Ratio II<sup>c</sup></u>
NAVY									
Non-black									
Low	1963	5405	6253	7074	8103	8880	9842	.91	.92
	1964	4943	5813	6731	7802	8589	9514	.91	.91
	1965	4574	5455	6361	7571	8345	9256	.91	.92
	1966	4224	5099	5936	7247	8079	8970	.90	.90
	1967	3682	4741	5570	6993	7759	8657	.90	.90
Med.	1963	5850	6731	7543	8536	9339	10292	.96	.96
	1964	5379	6292	7171	8184	8977	9930	.94	.95
	1965	5044	5942	6840	7939	8745	9664	.95	.96
	1966	4462	5419	6347	7601	8450	9394	.94	.95
	1967	3697	4771	5639	7064	7873	8831	.92	.92
High	1963	6171	7062	7894	8877	9682	10680	.99	base
	1964	5900	6815	7675	8646	9444	10442	.99	base
	1965	5551	6464	7370	8381	9157	10111	.99	base
	1966	5191	6199	7090	8173	8957	9928	1.00	base
	1967	4446	5684	6705	7753	8602	9586	1.00	base
Black									
Low	1963	5926	6804	7621	8598	9404	10376	.96	.97
	(n=84) 1964	5696	6598	7416	8419	9207	10173	.97	.97
	1965	5351	6234	7076	8055	8812	9750	.96	.96
	(n=38) 1966	5136	6083	6957	7969	8756	9704	.98	.98
	(n=76) 1967	4200	5388	6391	7499	8387	9331	.97	.97
Med. (n=88)	1963	5953	6811	7607	8635	9455	10385	.96	.97
	(n=82) 1964	5677	6525	7350	8314	9083	10097	.96	.97
	(n=73) 1965	5491	6370	7182	8156	8912	9803	.96	.97
	(n=24) 1966	4905	5960	6937	8018	8957	9893	.99	1.00
	(n=17) 1967	4262	5393	6421	7493	8334	9393	.98	.98
High	1963	6099	6979	7791	8749	9532	10529	.98	.99
	1964	5907	6813	7672	8593	9344	10344	.98	.99
	1965	5652	6546	7416	8406	9183	10147	1.00	1.00
	(n=88) 1966	5154	6181	7022	8046	8832	9794	.98	.99
	1967	4575	5755	6757	7824	8667	9661	1.00	1.01

TABLE A-3 (Continued)

<u>AFQT<sup>a</sup></u>	<u>BASD</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>Ratio I<sup>b</sup></u>	<u>Ratio II<sup>c</sup></u>
<b>AIR FORCE</b>									
<b>Non-black</b>									
Low	1963	5727	6587	7354	8272	9092	9977	.93	.99
	1964	5500	6368	7145	8128	8877	9768	.93	.99
	1965	5187	6150	6888	7903	8635	9495	.93	.98
	1966	4721	5777	6625	7652	8499	9366	.94	.99
	1967	3877	5278	6234	7405	8190	9126	.95	.98
Med.	1963	5724	6621	7382	8310	9072	9973	.93	.99
	1964	5557	6435	7202	8119	8876	9752	.93	.99
	1965	5234	6192	6957	7977	8725	9601	.94	.99
	1966	4815	5879	6695	7757	8554	9440	.95	.99
	1967	3945	5306	6303	7483	8300	9230	.96	.99
High	1963	5788	6674	7451	8405	9178	10121	.94	base
	1964	5589	6470	7280	8208	8963	9876	.94	base
	1965	5295	6241	7025	8031	8766	9654	.95	base
	1966	4863	5960	6817	7843	8610	9499	.95	base
	1967	4014	5369	6447	7561	8371	9277	.96	base
<b>Black</b>									
Low	1963	5645	6512	7261	8209	8989	9838	.91	.97
	1964	5368	6278	7090	8087	8867	9720	.92	.98
	1965	5223	6139	6867	7898	8674	9524	.94	.99
	1966	4712	5747	6559	7603	8443	9324	.94	.98
	1967	3843	5231	6150	7316	8099	9054	.94	.98
Med.	1963	5620	6525	7267	8243	8998	9903	.92	.98
	1964	5449	6338	7125	8089	8850	9745	.93	.99
	1965	5168	6106	6868	7911	8687	9548	.94	.99
	1966	4744	5809	6611	7681	8477	9368	.94	.99
	1967	3857	5238	6215	7411	8195	9155	.95	.99
High	1963	5735	6612	7362	8289	9063	9973	.93	.99
	1964	5463	6362	7173	8116	8874	9746	.93	.99
	1965	5181	6138	6924	7941	8696	9567	.94	.99
	1966	4805	5871	6716	7760	8549	9418	.95	.99
	1967	3883	5230	6267	7431	8240	9172	.95	.99

<sup>a</sup>Low, <31; med., 31-46; high, >46.<sup>b</sup>Compares each 1974 RMC figure to that of non-black Army men with high AFQT scores. Each BASD year is compared separately.<sup>c</sup>Compares each 1974 RMC figure for men in each Service to that of non-blacks in that Service with high AFQT scores. Each BASD year is compared separately.

TABLE A-4  
PERCENTAGE DISTRIBUTION OF PAYGRADE AS OF  
31 DECEMBER 1974, BY SERVICE AND BASD

<u>BASD</u>	<u>E3,4</u>	<u>E5</u>	<u>E6</u>	<u>E7,8</u>	<u>All</u>
Army (n=52,080)					
1963	1.16	17.02	62.36	19.45	15.41
1964	1.50	23.43	62.54	12.53	15.64
1965	2.64	32.30	59.39	5.68	17.49
1966	4.52	44.66	49.18	1.64	23.18
1967	<u>7.82</u>	<u>56.96</u>	<u>34.59</u>	<u>.63</u>	<u>28.29</u>
All	4.13	38.40	50.96	6.51	100.00
Navy (n=42,529)					
1963	3.68	22.80	61.32	12.20	17.69
1964	5.24	30.42	56.83	7.52	18.77
1965	8.54	38.96	49.56	2.94	22.29
1966	9.83	41.05	47.90	1.23	18.98
1967	<u>11.85</u>	<u>50.66</u>	<u>37.04</u>	<u>.44</u>	<u>22.27</u>
All	8.04	37.50	49.90	4.56	100.00
Marine Corps (n=8,600)					
1963	.37	4.84	66.60	28.19	12.50
1964	.93	7.41	73.30	18.36	15.07
1965	.90	15.87	72.04	11.18	18.09
1966	1.67	20.92	71.69	5.72	26.41
1967	<u>1.83</u>	<u>29.18</u>	<u>66.36</u>	<u>2.62</u>	<u>27.93</u>
All	1.30	18.27	69.87	10.56	100.00
Air Force (n=53,749)					
1963	.76	67.34	30.52	1.39	17.59
1964	.88	76.78	21.79	.55	15.91
1965	1.88	85.74	12.09	.29	17.28
1966	3.36	89.76	6.70	.19	22.62
1967	<u>11.70</u>	<u>86.89</u>	<u>1.36</u>	<u>.05</u>	<u>26.60</u>
All	4.47	82.29	12.80	.44	100.00

**TABLE A-5**  
**PERCENTAGE DISTRIBUTION OF PAYGRADE FOR**  
**SELECTED EDUCATION/MENTAL CATEGORY SUB-SETS OF TABLE A-4**  
 (Education = 12 years)

<u>Service</u>	<u>BASD</u>	<u>E3,4</u>	<u>E5</u>	<u>E6</u>	<u>E7,8</u>
			<b>Mental Category II<sup>a</sup></b>		
Army	1963	.61	11.50	65.49	22.40
	1964	.96	18.86	64.39	15.79
	1965	1.73	29.42	61.58	7.27
	1966	2.77	37.24	58.01	1.98
	1967	4.30	49.93	45.11	.66
Navy	1963	.36	11.65	71.12	16.87
	1964	.30	17.84	70.39	11.47
	1965	.91	29.21	65.75	4.14
	1966	1.36	38.13	59.43	1.08
	1967	2.23	54.55	42.83	.38
Marine Corps	1963	.00	3.36	65.25	31.39
	1964	.39	4.25	76.64	18.73
	1965	.32	11.43	74.60	13.65
	1966	1.00	17.19	75.28	6.52
	1967	1.40	22.91	73.49	2.21
Air Force	1963	.44	62.25	35.98	1.33
	1964	.75	74.87	23.91	.47
	1965	1.39	83.11	15.23	.28
	1966	1.80	90.04	8.04	.12
	1967	7.04	91.54	1.37	.04
			<b>Mental Category III<sup>b</sup></b>		
Army	1963	1.03	16.18	63.49	19.30
	1964	1.40	23.38	63.52	11.69
	1965	2.33	35.11	57.75	4.81
	1966	3.64	46.47	48.59	1.31
	1967	5.98	59.32	34.22	.48
Navy	1963	2.15	25.77	65.45	6.55
	1964	2.10	36.52	58.02	3.36
	1965	3.02	46.86	48.88	1.24
	1966	3.98	51.78	43.38	.86
	1967	4.13	65.78	29.40	.69

TABLE A-5 (Continued)

<u>Service</u>	<u>BASD</u>	<u>E3.4</u>	<u>E5</u>	<u>E6</u>	<u>E7,8</u>
			Mental Category III <sup>b</sup>		
Marine Corps	1963	.74	6.30	75.93	17.04
	1964	.30	8.68	77.84	13.17
	1965	1.15	23.22	70.11	5.52
	1966	1.07	25.11	70.90	2.91
	1967	1.39	36.57	60.39	1.66
Air Force	1963	.89	74.95	23.48	.68
	1964	.98	83.44	15.42	.17
	1965	1.91	90.96	7.02	.12
	1966	4.12	91.78	3.96	.13
	1967	12.41	86.81	.72	.06

<sup>a</sup> AFQT, 65th to 92nd percentile.<sup>b</sup> AFQT, 31st to 64th percentile.

TABLE A-6

## RMC, 1969-74, BY SERVICE AND OCCUPATION

## Army

Occupation	1969	1970	1971	1972	1973	1974	n
1	5630	6691	7559	8485	9270	10253	4085
2	5566	6635	7496	8421	9219	10156	634
3	5512	6582	7434	8353	9095	10032	771
4	5562	6610	7461	8365	9151	10115	1881
6	5145	6242	7103	8069	8899	9831	103
10	5534	6622	7502	8420	9188	10133	1657
11	5287	6444	7246	8095	8886	9899	17
12	5692	6754	7601	8537	9307	10314	622
14	5849	6955	7813	8720	9490	10480	23
15	5710	6783	7665	8502	9294	10286	253
16	5554	6626	7474	8396	9151	10112	241
19	5507	6592	7450	8378	9164	10085	286
20	5349	6392	7267	8170	8938	9827	745
22	5444	6514	7403	8322	9097	10061	342
23	5508	6617	7523	8464	9219	10213	448
24	5830	6859	7697	8612	9405	10455	481
25	5662	6730	7602	8524	9310	10283	876
30	5596	6645	7510	8421	9185	10153	1296
31	5648	6700	7564	8505	9277	10206	199
32	5587	6634	7473	8400	9195	10176	137
33	5665	6682	7511	8426	9156	10098	152
40	5409	6488	7345	8221	9015	9935	115
41	5488	6558	7434	8350	9092	10033	153
42	5750	6840	7638	8531	9312	10319	31
43	5632	6660	7515	8430	9242	10225	138
44	5023	6410	7168	8113	8884	9751	4
45	5704	6759	7637	8595	9370	10332	133
49	5677	6749	7653	8578	9332	10309	115
50	5777	6815	7677	8611	9389	10398	2437
51	5590	6645	7510	8431	9200	10145	1986
53	5568	6658	7545	8485	9273	10243	515
54	5650	6694	7569	8481	9244	10210	337
55	5523	6592	7451	8368	9136	10095	3312
56	5657	6722	7563	8482	9220	10164	256
57	5629	6691	7599	8501	9333	10180	58
58	5432	6488	7364	8303	9066	9965	649
60	5419	6493	7377	8290	9038	9974	1736
61	5420	6486	7339	8243	8995	9911	2726
62	5189	6260	7152	8085	8839	9728	723
63	5570	6638	7541	8469	9273	10139	38
64	5455	6539	7407	8303	9073	9976	464
65	5167	6244	7115	8038	8773	9749	68
66	5269	6355	7209	8119	8905	9842	236
67	5448	6471	7263	8166	8949	9846	102
69	5269	6305	7182	8118	8871	9828	99
70	5198	6292	7156	8002	8718	9627	159
71	5477	6541	7448	8422	9143	10055	192
72	5466	6511	7351	8277	9053	9940	152
73	5164	6261	7126	8015	8774	9662	515
74	5096	6271	7167	8103	8876	9784	71
76	5098	6138	7078	8002	8839	9737	14
78	5215	6245	7110	8074	8776	9669	42
79	5788	6790	7429	8361	9092	9877	2
80	5600	6603	7479	8384	9138	10105	2317
81	5165	6266	7154	8064	8801	9676	1423
82	5288	6350	7237	8172	8908	9819	318
83	5433	6531	7414	8338	9126	10093	1254
84	5549	6523	7359	8328	9082	9906	32
85	5376	6417	7269	8105	8859	9754	62
86	5508	6553	7413	8310	9099	10017	108

TABLE A-6 (Cont'd)

Navy							
Occupation	1969	1970	1971	1972	1973	1974	n
1	5129	6163	7058	8024	8860	9757	26
4	5242	6180	7056	8033	8901	9877	484
6	5301	6335	7274	8313	9115	10070	1862
10	5377	6419	7356	8322	9114	10083	3519
11	5327	6414	7377	8446	9350	10432	570
12	5437	6471	7352	8369	9147	10207	1038
13	5507	6536	7480	8505	9315	10284	834
15	5419	6459	7397	8412	9240	10319	588
16	5655	6644	7521	8475	9255	10155	419
19	5549	6572	7485	8461	9257	10215	737
20	5471	6469	7331	8302	9084	9985	1213
21	5620	6618	7460	8469	9329	10343	479
22	5337	6388	7333	8354	9158	10178	663
23	5647	6652	7548	8525	9315	10296	1202
24	5655	6618	7475	8539	9309	10294	166
30	5191	6238	7175	8275	9074	10119	845
31	5198	6219	7161	8294	9091	10124	373
32	5500	6530	7482	8534	9324	10375	167
33	4958	5954	6896	8048	8886	9812	198
40	5336	6298	7184	8187	8960	9871	173
41	5152	6057	6896	8018	8826	9878	82
42	5350	6326	7226	8229	9063	9982	163
45	5463	6473	7385	8363	9177	10166	108
49	5967	6974	7898	8875	9679	10590	12
50	5532	6487	7404	8466	9307	10225	909
51	5474	6445	7335	8379	9191	10136	1628
53	5467	6421	7277	8305	9117	10076	442
54	4605	5572	6518	7804	8697	9714	456
55	4961	5906	6833	7966	8810	9738	1933
56	4761	5965	6916	8000	8853	9851	4
57	5271	6251	7270	8282	9072	10111	60
58	5512	6539	7509	8573	9367	10260	192
60	5349	6305	7205	8213	9009	9907	4607
61	5601	6520	7368	8344	9182	10124	257
62	5183	6231	7132	8167	8988	10028	188
63	5485	6500	7361	8385	9108	10167	124
64	5461	6461	7362	8380	9189	10168	334
65	5255	6244	7109	8157	8979	10014	2659
66	5277	6269	7199	8298	9108	10178	2069
67	5500	6513	7423	8456	9239	10284	300
68	5377	6326	7203	8200	9005	9997	315
69	5159	6161	7076	8159	8989	10057	114
70	5269	6274	7215	8293	9126	10188	859
71	5807	6772	7659	8688	9471	10458	557
72	5467	6425	7324	8366	9211	10240	879
73	5727	6645	7455	8429	9244	10145	400
74	5214	6265	7242	8348	9140	10132	31
75	5323	6324	7266	8315	9178	10272	106
76	4916	6006	6818	7945	8617	9579	10
78	5495	6535	7486	8529	9403	10312	164
79	5138	6135	7012	8149	8977	10001	341
80	4508	5409	6245	7442	8176	9067	4149
82	4856	5859	6791	7944	8698	9660	413
83	4609	5834	7032	7939	8679	9493	1
84	4958	5940	6882	7945	8738	9669	105

TABLE A-6 (Cont'd)

Marine Corps							
Occupation	1969	1970	1971	1972	1973	1974	n
1	5289	6335	7160	8116	8985	10112	1014
2	5371	6407	7223	8255	9212	10264	133
3	5419	6392	7142	8061	8963	10143	165
4	5385	6390	7217	8281	9179	10245	134
5	5095	6216	7256	8269	9252	10425	23
10	5349	6417	7348	8412	9357	10435	609
12	5080	6200	7303	8315	9215	10278	311
15	5248	6394	7304	8339	9437	10673	86
16	5553	6524	7422	8343	9395	10527	14
19	5249	6426	7407	8414	9242	10232	34
20	5124	6231	7109	8091	9068	10151	215
22	5195	6318	7330	8290	9158	10501	125
23	5290	6381	7199	8153	9166	10271	97
24	5456	6480	7303	8222	9210	10340	257
25	5568	6545	7344	8316	9312	10361	47
32	5873	6765	7414	8574	9557	10727	5
40	4976	6109	7005	8127	9074	10157	45
41	5069	6214	7132	8089	8967	10263	17
42	5504	6543	7410	8547	9509	10702	34
43	5306	6307	7109	8087	9194	10227	33
45	5232	6349	7248	8263	9286	10507	46
49	5310	6320	7124	8124	9034	10150	70
51	5130	6210	7049	8079	9010	10045	329
52	5452	6450	7228	8244	9209	10270	532
53	5508	6544	7413	8435	9409	10697	192
54	5374	6450	7428	8479	9486	10628	185
55	5436	6436	7259	8264	9247	10505	543
56	5902	6759	7504	8503	9402	10397	8
57	5427	6526	7437	8458	9486	10557	46
58	5194	6278	7120	8117	9115	10229	99
60	5043	6185	7157	8187	9141	10195	894
61	5199	6253	7081	8043	8918	9945	283
62	5129	6206	7085	8160	9104	10129	88
64	5341	6378	7221	8244	9152	10251	295
67	5257	6303	7126	8037	9110	10270	18
68	5137	6241	7184	8198	9156	10299	55
70	5402	6452	7196	8165	9054	10282	31
72	5319	6297	7105	8054	9050	10139	93
73	5235	6191	7037	7974	8744	9888	35
74	5442	6528	7287	8136	9183	10342	13
75	4483	5705	6986	8080	9038	10076	15
76	5376	6297	7003	8009	9069	10064	15
78	5172	6261	7151	8195	9082	10147	44
80	5297	6294	7086	7971	9014	10176	129
81	5465	6428	7172	8156	9016	10180	308
82	5313	6325	7106	8144	9085	10259	252
83	5303	6399	7189	8150	9086	10102	314
84	5699	6638	7312	8197	9161	10316	14
86	4859	6035	7062	8157	9087	10186	71

TABLE A-6 (Cont'd)

## Air Force

Occupation	1969	1970	1971	1972	1973	1974	n
1	5012	6114	6999	7937	8707	9629	83
5	5663	6632	7477	8408	9151	10062	153
6	4512	5596	6540	7420	8662	9618	8
10	5036	6065	6880	7929	8706	9597	4068
11	5046	6103	6971	7995	8772	9688	360
12	5073	6145	7047	8023	8804	9715	669
14	5018	6121	6926	8017	8762	9669	167
15	5217	6203	6976	7987	8761	9686	543
16	5016	6083	6961	7972	8749	9649	947
19	5044	6088	6953	7956	8738	9630	1666
20	5004	6076	6921	7970	8765	9639	259
22	4939	6023	6944	7963	8744	9661	1489
23	5175	6185	7066	8002	8809	9719	961
24	5139	6187	7149	8085	8849	9756	479
25	5232	6240	7132	8068	8818	9683	161
30	4962	6024	6927	7962	8728	9635	858
31	5090	6119	6988	7999	8776	9678	275
32	4956	6031	6934	7926	8705	9644	284
33	4966	6048	6912	7913	8662	9557	262
40	4920	6021	6941	8006	8756	9668	71
41	4976	6074	6989	8015	8784	9727	251
42	4994	6065	6942	7971	8720	9627	380
43	5176	6227	7089	8057	8808	9697	102
49	5276	6256	7061	8095	8838	9737	137
50	4910	5970	6872	7978	8754	9666	1528
51	4850	5944	6831	7880	8649	9542	5655
52	7220	8347	9192	10440	11361	12749	8
53	4904	6042	6968	8017	8767	9664	1048
54	5131	6171	7123	8146	8904	9823	725
55	4968	6042	6932	7950	8714	9618	2207
56	4980	6014	6819	7883	8660	9552	278
57	5202	6217	7070	8101	8848	9736	555
58	4968	5962	6699	7770	8648	9536	973
60	4979	6031	6907	7919	8706	9619	11791
61	4884	5952	6851	7825	8593	9484	364
62	4864	5954	6837	7915	8678	9570	453
63	4876	6003	6884	7963	8732	9665	275
64	4964	6040	6902	7961	8733	9652	1531
65	5203	6098	6885	8103	8935	9749	6
66	4930	6012	6884	7900	8685	9580	364
67	5145	6126	7006	7937	8674	9612	8
70	5006	6042	6928	7921	8703	9602	698
71	4908	5950	6750	7840	8630	9519	784
72	4848	5962	6836	7883	8648	9548	1052
73	4872	5961	6792	7888	8686	9581	208
74	5029	6049	6846	7855	8688	9596	126
75	4855	5940	6861	7849	8654	9516	26
76	5052	6039	6805	7795	8613	9538	75
78	4888	5913	6784	7801	8651	9541	626
79	4615	5762	6710	7780	8568	9519	166
80	4877	5992	6886	7801	8593	9495	845
81	4889	5939	6781	7879	8661	9547	592
82	4778	5902	6758	7830	8592	9508	1938
83	4703	5828	6693	7794	8587	9487	1892
86	5059	6113	6981	8004	8770	9682	746

TABLE A-7

NUMBER OF MEN RECEIVING PROFICIENCY PAY AND  
VARIABLE RE-ENLISTMENT BONUSES, BY SERVICE

<u>Service</u>	<u>Receiving payment according to MARDAC tapes</u>		<u>Receiving payment according to budget</u>		<u>\$ per recipient</u>
	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	
			<u>Pro Pay</u>		
Army	29.1	11,233	10.9	73,479	\$662
Navy	20.0	8,143	11.5	54,021	692
Marine Corps	47.8	4,036	10.4	18,970	544
Air Force	7.7	4,097	12.7	65,842	352
			<u>Variable Re-enlistment Bonus</u>		
Army	12.9	4,978	3.1	20,802	\$3,147
Navy	48.9	19,900	7.0	32,763	1,691
Marine Corps	0.0	0	2.4	4,203	2,237
Air Force	0.0	4	4.4	22,605	2,251

TABLE A-8

COMPARISONS OF COMPENSATION IN 1974,  
BY SERVICE AND OCCUPATION

Occupation	Ratio of 1974 RMC to Army RMC			Percent receiving Pro Pay in 1974				Percent receiving Variable Re-enlist- ment Bonus in 1974	
	Navy	Marine	Air	Army	Navy	Marine	Air	Army	Navy
		Corps	Force			Corps	Force		
01	.95	.99	.94	33.54	0.00	42.80	71.08	19.83	57.69
02		1.01		32.49		40.60		16.09	
03		1.01		29.96		40.00		18.29	
04	.98	1.01		28.07	15.29	32.09		12.65	58.26
05						69.57	1.31		
06	1.02		.98	7.77	5.64		0.	28.16	19.55
10	1.00	1.03	.95	58.32	35.01	64.04	4.45	28.84	75.19
11	1.05		.98	47.06	79.65		3.61	41.18	76.49
12	.99	1.00	.94	73.79	51.93	64.31	68.46	14.47	65.51
13					71.70				78.18
14			.92	78.26			2.99	13.04	
15	1.00	1.04	.94	45.85	70.75	89.53	.74	3.95	68.20
16	1.00	1.04	.95	39.00	23.15	64.29	67.27	18.26	72.55
19	1.01	1.01	.95	46.85	48.44	64.71	18.85	8.74	62.82
20	1.02	1.03	.98	31.68	20.12	36.74	1.16	20.13	71.56
21					84.97				68.48
22	1.01	1.04	.96	39.47	34.39	26.40	33.78	15.50	65.46
23	1.01	1.01	.95	56.03	25.46	81.44	39.96	28.13	79.62
24	.98	.99	.93	48.86	1.20	42.02	11.69	19.13	32.53
25		1.01	.94	28.54		44.68	2.21	18.95	
30	1.00		.95	39.89	1.18		5.24	16.36	26.39
31	.99		.95	80.90	.27		33.82	18.59	25.20
32	1.02	1.05	.95	16.06	24.55	0.00	1.06	17.52	27.54
33	.97		.95	32.89	0.00		3.44	20.39	3.03
40	.99	1.02	.97	4.35	1.73	26.67	4.23	0.00	16.76
41	.98	1.02	.97	18.95	2.44	35.29	56.18	16.34	19.51
42	.97	1.04	.93	45.16	0.00	32.35	82.63	29.03	66.87
43		1.00	.95	18.84		51.52	.98	21.01	
44				25.00				0.00	
45	.98	1.02		11.28	0.00	45.65		.75	4.63
49	1.03	.98	.94	18.26	0.00	48.57	1.46	5.22	25.00
50	.98		.93	50.92	5.50		1.90	.82	7.92
51	1.00	1.00	.94	13.75	1.04	48.02	1.73	3.58	9.34
52						73.12			
53	.98	1.04	.94	50.68	26.92	39.06	20.04	7.96	49.32
54	.95	1.04	.96	16.67	.22	37.84	1.52	16.62	40.57
55	.96	1.04	.95	13.10	.22	45.86	1.40	8.70	30.44
56	.97	1.02	.94	14.84	0.00	62.50	1.08	.39	0.00
57	.99	1.04	.96	15.52	0.00	32.61	2.88	6.90	26.67
58	1.03	1.03	.96	14.18	83.85	37.37	1.03	3.85	77.08
60	.99	1.02	.96	52.94	9.51	46.53	1.34	17.86	40.92

TABLE A-8 (Cont'd)

Occupation	Ratio of 1974 RMC to Army RMC			Percent receiving Pro Pay in 1974				Percent receiving Variable Re-enlist- ment Bonus in 1974	
	Navy	Marine Corps	Air Force	Army	Navy	Marine Corps	Air Force	Army	Navy
61	1.02	1.00	.96	13.76	.39	39.93	1.37	14.49	53.31
62	1.03	1.04	.98	27.52	5.32	47.73	.66	6.64	61.70
63	1.00		.95	23.68	85.48		2.55	7.89	82.26
64	1.02	1.03	.97	25.65	31.14	42.03	2.02	9.05	58.68
65	1.03		1.00	10.29	17.41		0.00	33.82	69.95
66	1.03		.97	19.07	44.95		0.00	11.44	74.96
67	1.04	1.04	.98	30.39	31.33	22.22	0.00	9.80	60.00
68					2.86	47.27			1.59
69	1.02			17.17	1.75			15.15	68.42
70	1.06	1.07	1.00	12.58	44.35	41.94	.86	17.61	64.73
71	1.04		.95	13.02	3.23		1.40	13.54	57.81
72	1.03	1.01	.96	10.53	3.75	33.33	1.62	.66	64.96
73	1.05	1.02	.99	14.17	2.00	28.57	.96	25.44	54.75
74	1.04	1.01	.98	8.45	3.23	53.85	0.00	1.41	6.45
75					4.72	53.33	0.00		74.53
76	.98	1.03	.98	7.14	0.00	20.00	0.00	0.00	0.00
78	1.07	1.05	.99	11.90	6.10	59.09	11.66	0.00	76.83
79	1.01		.96	0.00	6.16		1.20	0.00	61.00
80	.90	1.01	.94	13.34	.31	24.81	1.18	13.42	18.32
81		1.05	.99	12.02		44.81	1.69	.70	
82	.98	1.04	.97	15.41	1.21	29.76	.88	6.29	1.21
83	.94	1.00	.94	13.24	0.00	59.87	1.53	15.63	0.00
84	.98	1.04		15.63	.95	28.57		0.00	0.00
85				9.68				0.00	
86		1.02	.97	13.89		52.11	2.14	25.00	

TABLE A-9

PERCENTAGE INCREASE IN RMC FROM 1970 TO 1974,  
BY SERVICE AND OCCUPATION

<u>Occup.</u>	<u>A</u>	<u>N</u>	<u>MC</u>	<u>AF</u>	<u>Occup.</u>	<u>A</u>	<u>N</u>	<u>MC</u>	<u>AF</u>
01	53	58	60	58	53	54	57	63	60
02	53		60		54	53	74	65	59
03	52		59		55	53	65	63	59
04	53	60	60		56	51	65	54 <sup>a</sup>	59
05			68	52	57	52	62	62	57
06	57	59		72 <sup>a</sup>	58	54	57	56	60
10	53	57	63	58	60	54	57	65	59
11	54	63		59	61	54	55	59	59
12	53	58	66	58	62	55	61	63	61
13		57			63	53	56		61
14	51			58	64	53	57	61	60
15	53	60	67	56	65	56	60		60
16	53	53	61	59	66	55	62		59
19	53	55	59	58	67	52	58	63	57
20	54	54	63	59	68		58	65	
21		56			69	56	63		
22	54	59	66	60	70	53	62	59	59
23	54	55	61	57	71	53	54		60
24	52	56	60	58	72	53	59	61	60
25	53		58	55	73	54	53	60	61
30	53	62		60	74	56	62	58	59
31	52	63		58	75		62	77 <sup>a</sup>	60
32	53	59	59	60	76	59 <sup>a</sup>	59	60	58
33	51	65		58	78	55	58	62	61
40	53	57	66	61	79	45 <sup>a</sup>	63		65
41	53	63	65	60	80	52	68	62	61
42	51	58	64	59	81	54		58	61
43	54		62	56	82	55	65	62	61
44	52				83	55	63	58	63
45	53	57	65		84	52	60	55 <sup>a</sup>	
49	53	54	61	56	85	52			
50	53	58		62	86	53		69	58
51	53	57	63	61					
52			59	53					

<sup>a</sup> 15 or fewer observations.

APPENDIX B

PROCEDURES FOR ESTIMATING MILITARY  
COMPENSATION FOR ENLISTED PERSONNEL:  
Data Preparation for the QRMC

## APPENDIX B

### PROCEDURES FOR ESTIMATING MILITARY COMPENSATION FOR ENLISTED PERSONNEL: Data Preparation for the QRMC

Active duty military personnel may receive a wide variety of monetary and non-monetary income. This appendix describes the various types of income, presenting reasons for the exclusion of some of them and explaining how others of them were estimated for 1974. It also deals briefly with the methods used to create longitudinal earnings profiles for the years 1969 through 1974. (The research results based on these data are presented in the main text of this report and in CRC 306.)

#### BASIC PAY

Active Duty Basic Pay is received by all enlisted personnel. Its amount depends on the paygrade (rank) and length of service. The Manpower Resources Data Analysis Center's (MARDAC) Enlisted Master Record tapes contain information on current paygrade, Date of Current Pay Grade (DCPG), and Pay Entry Base Date (PEBD) for all enlisted personnel as of the end of various calendar quarters. Annual Basic Pay can be estimated from these three data elements. For example, if a man's PEBD is 1 July 1964, his paygrade as of 31 December 1974 is E6, and his DCPG is November 1974 (day of month is not given), then his 1974 Basic Pay estimate is \$6668.10:

Pay schedule in effect through 30 September 1974 --

6 months at E5, over 8 years, @ \$528.00	\$3168.00
3 months at E5, over 10 years, @ \$547.20	1641.60

Pay schedule as of 1 October 1974 --

1-1/2 months at E5, over 10 years, @ \$591.60	887.40
1-1/4 months at E6, over 10 years, @ \$647.40	971.10

Total Active Duty Basic Pay	\$6668.10
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A data set has been created on computer tape, containing information for all male enlisted personnel with Basic Active Service Dates (BASDs) between 1 January 1963 and 31 December 1967 who appear on MARDAC's master tapes for 31 December 1974, 1973, and 1972 (the only year-end tapes available) and 30 June 1971 (the earliest tape).<sup>1</sup>

<sup>1</sup> Of the 170,579 observations with 1963-67 BASDs who are in the 31 December 1974 data file, 157,167 were matched with records from the three other data files. According to R. Brandawee of MARDAC, most of the match failures probably occurred because not all Service numbers on the 31 June 1971 tape have been changed to Social Security numbers; Social Security numbers served as the basis for all matches.

The Basic Pay estimates for 1973 and 1972 were calculated by the method illustrated above for 1974, using data as of 31 December 1973 and 31 December 1972, respectively. The necessary assumption, that only one promotion occurred in a calendar year, seems eminently reasonable, for these men have been on active duty for at least 4 years by 1972.

The procedure for the 1971 estimate was identical in principle. However, information from both the June 1971 and December 1972 master tapes was used, the latter when a promotion had been received during the second half of 1971. For the 1970 and 1969 estimates, information from the 1971 tape was combined with the assumption, necessitated by the absence of data for those earlier years, that each man was in his next lower paygrade for 18 months. If the DCPG on the 30 June 1971 tape was 30 June 1970 or earlier, it was assumed that no other promotion was received between 1 January 1969 and that date. If the DCPG was between 1 July 1970 and 30 June 1971, it was assumed that another promotion had occurred exactly 18 months before the one reported in our data. For example, if the DCPG for an E5 was November 1970, he was assumed to have held that rank since May 1969.

Obviously, in many cases 18 months understates the length of time in the next lower paygrade. Although in a few cases 18 months may overstate time in grade, it is likely that Basic Pay (and other compensation based on paygrade) is on average understated slightly for 1969.

#### CASH ALLOWANCES

In addition to Basic Pay, enlisted personnel receive various types of allowances as well as income in kind. It is not possible with the existing data set to estimate all of the allowances received. However, this is not too serious a problem, since certain of the allowances for which an enlisted man may qualify have off-setting costs. The data also do not include information on clothing allowances, family separation allowances, dislocation allowances, overseas cost of living allowances, travel allowances to new or temporary duty stations, and payment for unused leave but, to the extent that they represent reimbursement of unusual expenses, their exclusion does not misstate net earnings.

The amounts received by men in the Armed Forces for Basic Allowance for Quarters (BAQ) and Subsistence (rations) were added to their Basic Pay in estimating total income. Where housing and rations are provided in lieu of allowances, the value of those services is assumed to be equal to the cash payment which would otherwise have been made. That is, the amount of the allowances for which a man is eligible was included in estimates of his compensation whether he received services in kind or cash payments. This is the convention normally employed in estimating all cash RMC (Regular Military Compensation), which is commonly used for comparing military and civilian compensation.

The amount of the BAQ varies with the presence or absence of dependents and with paygrade. Until 1971 BAQ varied also with number of dependents for paygrades below E5 with length of service less than 4 years. Throughout the 1969-1974 period, in paygrades E5 and above, however, quarters allowances have varied only with presence or absence of dependents. The value of the quarters provided does increase with family size, a variation not accounted for in these estimates. In general, the cash value of BAQ overstates the value of the service provided to unmarried, low-paygrade men living in barracks and may understate the value of housing provided to married men, especially those with several dependents.

In order to use the information in MARDAC's data files to calculate each year's total BAQ payments, it was necessary to assume that there was no change in dependents during the period covered by each file. Thus, if a man had dependents during only part of a year -- say 1973 -- his BAQ has erroneously been calculated as if his year-end dependency status obtained all year. Except for E4s and below during 1969-1971, only the presence or absence -- not the number -- of dependents affected BAQ.

The Subsistence rate is invariant among all enlisted men, and its cash value for each year has been included in the estimated total compensation profile for each observation.

#### TAX ADVANTAGE

These housing and food allowances are not subject to income tax. Therefore, military compensation should be adjusted to reflect each man's tax-saving on allowances. Otherwise, military compensation is understated. The amount of the adjustment which should be made depends on the man's marginal tax rate and on the amount of his non-taxable allowances. Since some of the information needed to determine each man's marginal tax bracket was not available, the figures used for each man's tax advantage were derived from the average figures which have been used by the Services in estimating RMC. The dollar amounts are paygrade and calendar-year specific. They are based on the assumption that all allowances are received in cash; they use average characteristics for personnel in each paygrade. Since they assume there is no other family income and that standard deductions are used, the marginal tax rate used in the tax advantage calculations is inaccurate. The first assumption produces an understatement in the tax rate (and the tax advantage) that probably is not offset by the overstatement produced by the latter assumption.

Military personnel also are less likely to pay state and local income taxes on any of their military compensation. This is due in part to their being able to choose a state of residence that is not necessarily the state in which they are stationed and in part to the fact that many states do not bother to collect taxes from military personnel. Measurement of this advantage is not possible here, but this further increases the understatement of each man's military compensation.

The four components of compensation which have been estimated for each individual in the 1963-1967 BASD cohort are the same elements of the RMC calculations as heretofore have been available only for very broad groups within the military: Basic Pay, Basic Allowance for Quarters and Subsistence, and tax advantage. With this data set, direct comparisons can be made between RMCs for any sub-groups which can be identified within the Armed Forces, and RMC for groups at interest can be compared with the earnings of comparable groups of veterans from the same entry cohort.<sup>1</sup>

#### OTHER ALLOWANCES AND BENEFITS

Users of these RMC estimates should bear in mind that certain omissions from total military compensation result in an understatement of military incomes, although comparisons of groups within the military may be unaffected. For example, no attempt was made to measure the value to military families of being able to purchase food and most other items at discounts in commissaries and PXs, to fly on civilian airlines at reduced fares, to receive free medical and, at some duty stations, free dental services, to retire at a young age, and to patronize heavily-subsidized recreation facilities. Intra-military comparisons are affected by the omission from MARDAC's data files of information on special and incentive pays such as hostile fire pay (currently \$65/month), sea and foreign duty pay (\$8 to \$22.50/month, depending on paygrade), diving pay (\$65 to \$110/month), and hazardous duty pay (\$50 to \$105/month for aviation and submarine crewmen, \$55/month for others). The omission of these portions of total pay will tend to reduce both the average level and the variance of measured military pay.

#### RE-ENLISTMENT BONUSES AND PROFICIENCY PAY

Understatement of the average level and the variance of military incomes results also from the lack of reliable information on the receipt of re-enlistment bonuses and Pro Pay. An analysis of the indicators on MARDAC's data tapes for Variable Re-enlistment Bonus Multiplier (VRBM) and Pro Pay confirmed the warnings of several MARDAC staff members: there are severe shortcomings and serious inconsistencies in the codes provided by each of the Services.

For both Pro Pay and VRBM there is no information available earlier than 31 December 1972. The earliest information on dates of current re-enlistment is on the 30 June 1971

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<sup>1</sup> RMC estimates were prepared for 140,907 of the 157,167 records matched from the 1971-1974 data tapes. 16,260 records were eliminated: 1070 were females; 479 did not have a reasonable Pay Entry Base Date -- i.e., between 1963 and 1967; 14,078 lacked the Date of Current Pay Grade year; 626 were not in paygrades E3 through E9; 5 were reported in ranks E8 and E9 without sufficient time in service; and 2 had invalid codes for dependency status.

data tape. All of the men being studied were eligible for Regular Re-enlistment Bonuses (RRB);<sup>1</sup> however, for many of them the date of first re-enlistment and paygrade at re-enlistment cannot be determined. Some of the men were already into their second re-enlistment by the date of the earliest available data file. It is not possible to determine whether they were still eligible for an RRB at that time. Although the timing of the receipt of an RRB cannot be determined, each man may be assumed to have received \$2000 as a re-enlistment bonus or bonuses. (The payment equals monthly Basic Pay times the number of years of the re-enlistment for the first re-enlistment; two-thirds of monthly Basic Pay times number of years for the second; one-third for the third; and one-sixth for the fourth. The total throughout a military career may not exceed \$2000.)

Before 1 June 1974, all men who re-enlisted before 90 days following the end of their active obligated service were eligible for an RRB, with a lifetime maximum of \$2000. Some men received, in addition, VRB equal to a multiple, from one to four, of their RRB, up to a maximum of \$8000. In 1974 VRB was replaced by Selective Re-enlistment Bonuses (SRB). Men could receive either SRB or RRB, but not both. Since a maximum of \$12,000 (\$15,000 for Navy Nuclear Power NECs) can be received, the omission of VRB and SRB from compensation seriously understates some military incomes. Moreover, not all personnel receive these bonuses, so the variance of incomes within the military is understated also. As the data in table B-1 suggest, the Service reporting of VRBM is inconsistent. Also, as explained above, the amount of VRB or SRB cannot be determined in cases identified as receiving bonuses: it is difficult to determine which re-enlistment a man is in, his Basic Pay at re-enlistment, whether he received a lump sum or annual payments, and -- for SRB calculations -- the number of years of "additional obligated service". That number will not equal the number of years of the current enlistment if the previous enlistment was terminated by "shorting out" -- i.e., re-enlisting before the end of that enlistment period.

TABLE B-1

PROPORTION HAVING NON-ZERO VARIABLE RE-ENLISTMENT  
BONUS MULTIPLIER, BY YEAR OF DATA FILE AND SERVICE

<u>Year</u>	<u>Army</u>	<u>Navy</u>	<u>Marine Corps</u>	<u>Air Force</u>
1972	.521	.478	.0	.225
1973	.190	.485	.0	.225
1974	.129	.489	.0	.0

<sup>1</sup> A few men may have not received RRBs; this would occur if more than 3 months elapsed between the termination of one enlistment and the date of the subsequent re-enlistment.

Pro Pay estimation also presents problems. There are three categories of Pro Pay: critical specialties, special duty assignments, and superior performance. In critical specialties a man may qualify for monthly payments of \$50 to \$150. Special duty pay adds \$50/month to the pay of drill sergeants and career counselors and \$50/month to \$150/month for recruiters, depending on the amount of time as a recruiter; the number of months as a recruiter cannot be determined from the MARDAC tapes. For superior performance, qualifying Air Force personnel may receive \$30/month and Army and Marine Corps personnel, \$50/month; this pay is not available to Navy men.

In this data set there are some problems in determining the Pro Pay code for each recipient. None of the services reported Pro Pay ratings in the 30 June 1971 data. The Pro Pay codes for men in the Air Force ranged from 1 to 9, not 1 to 4, on the 1972 and 1973 data tapes; all 1974 codes were non-integer. For Marine Corps recipients, 1973 and 1974 codes ranged from 1 to 8; in 1974 there were also some non-integer codes. Moreover, the proportion of Marines with non-zero Pro Pay codes in 1974 was .478, which appears too high when compared with the 10 percent of total Service strength reported by the Marine Corps to be receiving Proficiency Pay.<sup>1</sup>

MARDAC personnel do not know how to interpret the Pro Pay codes, particularly those outside the 0-4 range. But the problem of assigning dollar values to Pro Pay recipients is even more complex, for a given code does not correspond to a single monthly amount. As an example, in 1974, Navy men with the same Pro Pay code could have been receiving monthly Pro Pay of \$50, \$75, \$100, or \$150. There were many variations in the Pro Pay programs during 1969-74; and, in recent years, the programs have been in the process of being gradually discontinued.

Although the Pro Pay and VRBM codes are inadequate for assigning reasonably precise dollar amounts to each observation, they provide some useful information. When the earnings of groups are being compared, the average earnings in 1972-1974 can be interpreted in the light of the proportion of men in a sub-group who reportedly were receiving either type of incentive pay and the average amount (per recipient) of that type of pay for his Service.

#### SUMMARY

The estimates of Regular Military Compensation used in this study (and in CRC 306) should reflect very accurately the true values. Because of the time-in-grade assumption sometimes applied to early promotions, a few 1969 RMC estimates may be too low. If the amount of BAQ on the average understates the value of housing received, this also biases the RMC estimates downward; this is especially likely to hold for men with several dependents.

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<sup>1</sup>Calculated from data provided by Mrs. Alice Mackey of the Quadrennial Review of Military Compensation staff.

Such omissions from total pay as the reduced likelihood of paying state and local taxes, receipt of Regular Re-enlistment Bonuses, and discounts on PX purchases also understate military incomes. As in the case of the two biases already summarized, this downward bias should not invalidate intra-military comparisons of compensation.

The absence of information on hazardous duty pay does reduce the validity of intra-military comparisons, but only for a small number of occupational specialties. Variable Re-enlistment Bonuses and Proficiency Pay were received by a larger minority of military personnel. If VRBs and Pro Pay are not distributed evenly among sub-groups being compared, intra-military comparisons may be misleading if only RMC is used to measure earnings of enlisted personnel. Even though some components of total compensation are not measured, the omissions are not large, and this is the first data set that allows researchers to analyze the actual earnings profiles of sub-groups of enlisted personnel, rather than relying on hypothetical profiles based on assumed promotion rates, etc., or using only very broadly-defined groups within the Armed Forces.